



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,945	11/07/2001	Masaru Watanabe	MTS-3285	4814

7590 08/10/2004

RATNER AND PRESTIA  
One Westlakes, Berwyn, Suite 301  
P.O. Box 980  
Valley Forge, PA 19482-0980

EXAMINER
----------

JENKINS, DANIEL J

ART UNIT	PAPER NUMBER
----------	--------------

1742

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/008,945

Applicant(s)

WATANABE ET AL.

Examiner

Daniel J. Jenkins

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- REPLACES ACTION OF*
- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 10-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1742

1. The Examiner notes that the Action of 5/10/04 was not made considering the Amendment of 8/4/03. A new Action is made at this time.
2. The Examiner finds that the addition of claims 10-18, adding article and apparatus claims to the pending method claims, adds additional inventions to the pending invention. Thus, the election by original presentation of the method claims is considered the response to the following restriction requirement. New claims 10-18 are withdrawn from further consideration.
3. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-9, drawn to a method of forming an electrode, classified in class 419, subclass 8.
  - II. Claims 10-16, drawn to an electrode, classified in class 428, subclass 548.
  - III. Claims 17 and 18, drawn to an apparatus for forming an electrode, classified in class 425, subclass 78.
4. The inventions are distinct, each from the other because of the following reasons:
  - a. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be

shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product can be made without the use of dies and by applying a dried preform to the substrate.

b. Inventions I and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus can be used for forming layered electrical component substrates.

c. Inventions III and II are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case, the apparatus can be used for forming layered electrical component substrates.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Publication 10-340727 (JP'727) with consideration of the Partial English Translation of an Office Action dated December 16, 2003 from the Japan Patent Office for JP Application No. 2001-339946.

JP'727 discloses a method of forming an electrode comprising:

- providing a current collector (2);
- providing a paste (5) to both sides of the current collector with dies (3);
- drying (dewatering) the applied paste [0011]; and
- rolling (pressing) the dried paste [0011].

JP'727 further discloses in the detailed description of the invention and the accompanying drawings thereof the current collector in which curved portions (201) and (202) each in the shape of a strip protruding from the front and back surfaces, respectively, reading upon the terms of "concavities" and "convexities."

Art Unit: 1742

JP'727 further discloses wherein a electromagnetic foil (203) in a concave state as described in Figure 3 are formed in predetermined dimensions by applying a three dimensional working on the metal foil in arrangement in parallel to each other along a direction x, as a collector having a thickness more than the metal foil.

8. Claims 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'727.

JP'727 discloses the invention substantially as claimed (see paragraph 3 above). However, JP'727 does not disclose the relationship of electrode thickness, applied paste thickness and nozzle gap as claimed by Applicant.

JP'727 does disclose wherein the current collector has a thickness of 5-30  $\mu\text{m}$  (see JP'727 Claim 16), and in the third embodiment, discloses a thickness of 5-100  $\mu\text{m}$ .

JP'727 further discloses a mold gap distance of 100-1000  $\mu\text{m}$  (see Detailed Description [0016]).

JP'727 further discloses an example of dried electrode of 250  $\mu\text{m}$  (see Means [0021]).

Thus JP'727 discloses ranges and examples that are within ranges of the claimed ranges of Applicant, establishing a prima facie case of obviousness, allowing one of ordinary skill to determine the overall range of coating thickness, collector thickness, and final electrode thickness based on the selection of the

collector and paste materials through routine experimentation based on the desired activity of the formed electrode.

It is known in the prior art that both sides of the electrode be of similar activity, arrived by even active material material, determining this process parameter as controlled in the art, motivating one of ordinary skill to optimize the even application of the active material paste.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.


Claim 2 does not contain a further limitation to claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Jenkins whose telephone number is 571-272-1242. The examiner can normally be reached on M-TH6:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1242. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel J. Jenkins  
Primary Examiner  
Art Unit 1742

dj